

Application No.: 10/060,690

Case No.: 56311US007

## REMARKS

Claims 20-21, 23-28, 32-35 and 37-41 are withdrawn from consideration. Claims 1, 4-9 and 29-31 are amended. Claims 3, 36 and 42 have been cancelled. Claims 1-2, 4-35 and 37-41 are pending.

Please cancel claims 3, 36 and 42.

Claims 1, 4-7 and 29-31 have been amended to clarify the chemical formula of the catalyst compositions of the present invention, consistent with the original claims. In these claims, the formula  $\{RA\}^{(-)}\{QR'_k\}^{(+)}$  has been amended to  $\{R(A)_n\}^{(-n)}\{QR'_k\}^{(+)}_n$ . Similar amendments are made to the specification. Support for these amendments can be found at, e.g., the following locations in the original specification.

LOCATION	DESCRIPTION
Page 9, line 29 – Page 10 line	Useful anions include multi-carboxylates, multi-sulfates, multi-sulfonates, e.g., $^{(-)}OOC-(CH_2)_n-COO^{(-)}$ , $^{(-)}OOC-(CH_2)_n-OSO_3^{(-)}$ , $Ph-((CH_2)_p-COO^{(-)})_q$ (i.e., $n = 0$ to $10$ , $p$ and $q = 1$ to $4$ )
Page 10, lines 23-24	“When multifunctional acids are used, the mono-, bis-, and multi-complexes with $QR'_k$ can be used.” (emphasis added)
Original claim 5	Describing species such as: $^{(-)}OOC-(CX_2)_n-COO^{(-)}$ wherein $n$ is $0$ to $10$ and $X$ is $H$ , $F$ , or $Cl$ ; and $Ph-((CH_2)_p-COO^{(-)})_q$ wherein $p$ and $q$ are independently $1$ to $4$
Original claims 6 and 7	Describing species wherein $n$ (see claim 1) = $2$ ; i.e., $^{(-)}O_2-Ph-G-Ph-O_2^{(-)}$ (claim 5); and $^{(-)}O-Ph-C(CX_3)_2-Ph-O^{(-)}$ (claim 6)
Original claim 29	Describing species where $n = 1$ or $2$ .

Claim 1 has also been amended to correct a misstatement with respect to the relationship of  $k$  to the valence of  $Q$ . It is inherent in the nature of  $Q$  that in order for  $\{QR'_k\}$  to have a positive charge as illustrated in Formula (1),  $k$  must be equal to one greater than the valence of  $Q$ . Thus,

Application No.: 10/060,690

Case No.: 56311US007

support for this amendment is found in Formula (1) as filed and in the original claims. Claims 5, 29 and 30 are also amended to provide an alternative expression for a formula recited therein.

Claims 8 and 9 are both amended to include the Examiner's preferred form for reciting the Markush groups of those claims and to indicate that the recited materials correspond to precursors of QR'k.

### **Election of Species Requirement**

Applicants confirm their election to prosecute the species of the invention of Group I. Applicants note that this election was made with traverse, and respectfully reiterate their position that the search required for all species encompassed by Groups I-VI would not impose an undue burden on the Patent Office, relative to the search required for Group I alone.

### **§ 112 Rejections**

The Examiner has rejected claims 1-19, 22, 29-31 and 42 under 35 USC § 112 as purportedly being broader than one of ordinary skill in the art is enabled from the disclosure to practice the invention.

This rejection is based upon an unsupported assertion that "use of catalytic entities for compositions is notoriously unpredictable." Applicants submit that this broad, unsupported assertion is not a proper ground for this rejection. Applicants further submit that nothing on this record shows any unpredictability. Applicants respectfully request that the Examiner provide any specific information that might support the Examiner's position, including, if appropriate, an affidavit as required by 37 CFR §1.104(d)(2).

The Applicants observe that the specification need not contain any examples if the invention is otherwise disclosed in such a manner that one skilled in the art will be able to practice it without undue experimentation. MPEP 2164.02, In re Borkowski, 422 F.2d 904, 908 (CCPA 1970).

In the present application, the Applicants have gone far beyond the bare requirements of enablement to provide no less than seven specific working examples at Example 1, page 22 lines 17 to 22; Example 7, page 23 line 27 to page 24 line 2; Example 9, page 24 lines 11 to 15;

Application No.: 10/060,690

Case No.: 56311US007

Example 11, page 24 lines 26 to 30; Example 12, page 25 lines 10 to 12; Example 14, page 26 lines 24 to 28; and Example 15, page 27 lines 10 to 13.

The Patent Office states that "use of catalytic entities for compositions is notoriously unpredictable." Such a statement may intend to imply that any catalysis research is by nature void of rational development. Rather, Applicants submit that one of ordinary skill in the art, in possession of the present disclosure provided by the Applicants of catalysts useful in given compositions, may readily identify species of useful catalysts through routine experimentation.

In further illustration of the full enablement shown in the present application, Applicants call Examiner's attention to claims 29 and 31. Claim 29 claims a catalyst range that encompasses six species and their equivalents. Three of those six species are exemplified in Examples 1, 7 and 11. Claim 31 claims a catalyst range that encompasses four species and their equivalents. One of those four species is exemplified in Example 15. Thus, Applicants have more than sufficiently taught anyone skilled in the art how to make and how to use this invention.

In light of the Applicants' teachings in the specification and the numerous working examples provided in the present application, the Applicants respectfully submit that the full scope of the claims is enabled and the rejection under 35 USC § 112 should be withdrawn.

### **§ 102(b)/103(a) Rejections**

Claims 1-2, 4-19, 22 and 29-31 stand rejected under 35 U.S.C. 102(b) as purportedly anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Jing et al. (U.S. Patent 5,728,773) [hereinafter Jing] or; Fukushi (U.S. Patent 5,451,625) [hereinafter Fukushi] or; Guerra et al. (U.S. Patent 5,384,374) [hereinafter Guerra].

According to the MPEP, "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." See MPEP 2131 (quoting *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631) (emphasis added). Furthermore, "[t]o establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable

Application No.: 10/060,690

Case No.: 56311US007

expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations." See MPEP 2143 (emphasis added).

The Patent Office asserted that each of the patents cited teaches the use of fluoroelastomer compositions containing components which, when mixed together and reacted, would give the reactants required by the Applicants' claimed compositions. The Patent Office further asserted that each of the cited references stipulates that their compositions contain components which, in situ, would give the Applicants' claimed catalyst.

Applicants submit that, in one aspect, the invention of amended claim 1 is directed toward a composition comprising, amongst other materials, a fluoropolymer comprising interpolymers derived from a nitrogen-containing cure site monomer and a catalyst composition that includes a compound having the general formula  $\{R(A)_n\}^{(-n)}\{QR'_k\}^{(+n)}$  or the precursors thereof added separately or as a mixture. (Emphasis added).

#### *Rejection over Jing '773*

The Patent Office has not met its burden of showing that Jing teaches, suggests or describes all of the elements of amended claim 1. In particular, the Patent Office has not shown where Jing teaches, suggests or describes a composition comprising a fluoropolymer comprising interpolymers derived from a nitrogen-containing cure site monomer. Jing mentions only that bromine-containing cure site monomers may be used. (See, e.g., col. 4, lines 4-7). For at least these reasons, the Patent Office has not met its burden of establishing anticipation by Jing, nor a prima facie case of obviousness over Jing. Thus, the rejection of claim 1 under 35 U.S.C. § 102(b) and § 103(a) with respect to Jing (US 5,728,773) is unwarranted and should be withdrawn.

Claims 2, 4-19, 22 and 29-31 each depend from claim 1 and add patentable features thereto. Claim 1 is patentable for at least the reasons stated above. Thus, claims 2, 4-19, 22 and 29-31 are likewise patentable.

In summary, the rejection of claims 1-2, 4-19, 22 and 29-31 under 35 U.S.C. § 102(b) and § 103(a) with respect to Jing (US 5,728,773) is unwarranted and should be withdrawn.

Application No.: 10/060,690

Case No.: 56311US007

### *Rejection over Fukushi*

The Patent Office has not met its burden of showing that Fukushi teaches, suggests or describes all of the elements of amended claim 1. In particular, the Patent Office has not shown where Fukushi teaches, suggests or describes a composition comprising a fluoropolymer comprising interpolymers derived from a nitrogen-containing cure site monomer. Fukushi mentions only the use of "conventional fluoroelastomers such as vinylidene fluoride-hexafluoropropene copolymers, vinylidene fluoride-hexafluoropropene-tetrafluoroethylene terpolymers, tetrafluoroethylene-propylene copolymers" (see col. 2, lines 15-20) and specifically FLUOREL<sup>TM</sup> fluoroelastomer FC-2145 (see column 6, Table 1, footnote 1).

For at least these reasons, the Patent Office has not met its burden of establishing anticipation by Fukushi, nor a prima facie case of obviousness over Fukushi. Thus, the rejection of claim 1 under 35 U.S.C. § 102(b) and § 103(a) with respect to Fukushi (US 5,451,625) is unwarranted and should be withdrawn.

Claims 2, 4-19, 22 and 29-31 each depend from claim 1 and add patentable features thereto. Claim 1 is patentable for at least the reasons stated above. Thus, claims 2, 4-19, 22 and 29-31 are likewise patentable.

In summary, the rejection of claims 1-2, 4-19, 22 and 29-31 under 35 U.S.C. § 102(b) and § 103(a) with respect to Fukushi (US 5,451,625) is unwarranted and should be withdrawn.

### *Rejection over Guerra*

The Patent Office has not met its burden of showing that Guerra teaches, suggests or describes all of the elements of amended claim 1. In particular, the Patent Office has not shown where Guerra teaches, suggests or describes a composition comprising a fluoropolymer comprising interpolymers derived from a nitrogen-containing cure site monomer. Guerra mentions only a fluorocarbon elastomer gum, such as vinylidene fluoride and hexafluoropropene. (See, e.g., col. 3, lines 26-29; see also column 7, lines 11-59 and the Table at column 9 lines 45-53)

Application No.: 10/060,690

Case No.: 56311US007

For at least these reasons, the Patent Office has not met its burden of establishing anticipation by Guerra, nor a prima facie case of obviousness over Guerra. Thus, the rejection of claim 1 under 35 U.S.C. § 102(b) and § 103(a) with respect to Guerra (US 5,384,374) is unwarranted and should be withdrawn.

Claims 2, 4-19, 22 and 29-31 each depend from claim 1 and add patentable features thereto. Claim 1 is patentable for at least the reasons stated above. Thus, claims 2, 4-19, 22 and 29-31 are likewise patentable.

In summary, the rejection of claims 1-2, 4-19, 22 and 29-31 under 35 U.S.C. § 102(b) and § 103(a) with respect to Guerra (US 5,384,374) is unwarranted and should be withdrawn.

### **Conclusion and Request for Rejoinder**

In view of the above, it is submitted that the application is in condition for allowance. Reconsideration of the application is respectfully requested.

Allowance of claims 1-2, 4-19, 22 and 29-31 as amended, at an early date is solicited.

In addition, Applicants respectfully request rejoinder and allowance of the following composition claims of:

Group II: claim 16 (fluoropolymer containing filler) and 23,

Group III: claim 20 and 21, and

Group IV: claim 24-28

Each of these claims depends from claim 1 and adds patentable features thereto. Claim 1 is patentable for at least the reasons discussed above, thus these claims are likewise patentable.

Furthermore, Applicants respectfully request rejoinder and allowance of the process claims of:

Group V: claims 32-35 and 40-41; and

Group VI: claims 37-39.

Applicants respectfully submit that independent process claims 32 and 37 have been amended to include the limitations of product claim 1, which is patentable for at least the reasons discussed above. Thus the process of claims of Groups V and VI also should be allowable.

Application No.: 10/060,690

Case No.: 56311US007

In summary, allowance of claims 1-2, 4-35 and 37-41, as amended at an early date is solicited.

Respectfully submitted,

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